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**Preliminary description of a new species of
Apodontia (A. major sp. nov., 'California
show'tl,' 'mountain beaver').**

I have received from one of my collectors eight specimens of a new species of Apodontia captured in the Sierra Nevada Mountains, in Placer county, Cal. It may be distinguished from the only previously known species of the family by the following diagnosis:—

Length, about 400 mm.; hind-foot with claws, about 60 mm.; height of ear, about 8 mm.—Pelage, comparatively coarse and harsh; hairs of flanks, elongated beyond those of the surrounding parts, forming on each side a more or less pronounced oval patch, from 60 to 80 mm. in length and from 40 to 60 mm. in breadth, which terminates abruptly about opposite the hip joint, and which is most marked in specimens not fully adult. *Color*: Whiskers, black; back, grizzled grayish-brown, the tint of the brown being that of a dilute bistre; hairs at base and under fur, very dark plumbeous; rump and belly, grizzled mouse-gray, sometimes faintly and superficially washed with very dilute brown; a distinct patch of white in the anal region; tip of nose, sooty-brown, which color sometimes extends backwards in a narrow stripe almost to a point midway between the eyes. *Cranial characters*: The skull is much larger and heavier than that of *A. rufa*, and the occipital crest is more highly developed; the zygomatic arches are more bowed outward; the nasal bones are broadest at or near their anterior ends instead of some distance posteriorly; and the ratio of the upper molar series of teeth to the basilar length is decidedly less than in *A. rufa*.

There are several other cranial differences which will be discussed at length, together with the animal's affinities with 'var. Californicus' of Peters, in a paper soon to be published.

C. HART MERRIAM.

International copyright.

While always an enthusiastic advocate of an international copyright as a matter of abstract justice to British authors, I have never been able to satisfy myself of the constitutional right of congress to enact a separate bill for the purpose of effecting one.

The constitution of the United States is a grant of power. Among other powers granted by it to congress is (art. I., sec. 8) that of promoting "the progress of science and useful arts by securing for limited times to authors and inventors the right to their respective writings and discoveries." This congress has already done. The question now presented is, therefore,

1. Has congress exhausted such powers under the constitution, and, if not, has it still power to legislate as to the degree of protection accorded authors and inventors, by enacting a statute to protect British authors, which statute (let it be admitted) will indirectly increase the profits of the American 'author and inventor'?

This question being disposed of, nothing further need be said as to the power; but a word might be added as to the merits of the question.

2. Is one of the legal necessities of our imperfect state that every individual, in selecting his vocation, assumes and subjects himself to the risks and dangers of that vocation; as, for example, an employee

of a railroad company, other things being equal, cannot recover of the company for injuries received in the course of his legitimate employment by it. Now, the author, in selecting authorship as a vocation, accepts a risk which may, perhaps, be stated categorically; viz., while it is doubtless true that, 1°, an idea is property, it is equally true that, 2°, the form of words in which an idea is expressed is also property; but it is absolutely impossible to protect the idea when unclothed in words. The utmost the law can do is to protect the expression of the idea.

Now, the disability—the risk and danger of authorship which the author accepts—arises from the fact that it is possible to clothe an idea in any number of different forms of words. Let us suppose that A expresses an idea, absolutely original with himself, as follows: 'The sun gives warmth to the earth.' Let us suppose that B sees this in print, and steals it deliberately, putting it thus: 'The orb of day diffuses its heat over our planet.' It is evident enough that no statute or court can refuse protection to either or both A and B: for no court could try the question of priority of the abstract conception, and, even if it could, it could not protect that abstract conception separated from a statement of it in words; and B's statement is in words as well as A's. To obtain a patent, an oath and a contract are necessary. The applicant must first make oath to the originality of his invention, and, secondly, make a contract with the government; viz., that, on his part, he will fully and frankly state in his specifications the methods and processes by which he produces useful results, so plainly that anyone understanding the language could do the same, and that in exchange for these specifications, the government, on its part, will accord him a limited protection in the use of them for the inventor's sole profit. But the author of a poem, novel, or treatise, makes no oath of originality, and enters into no contract. He merely states the name and makes profert of his production; and the government takes notice, and shifts the burden of proof in his favor; that is to say, provides, that, if the author thereafter sue for an infringement, he need only plead his copyright, while it is for the defendant to attack.

It was this course of reasoning which led me, ten years ago (in a treatise on the laws of copyright), to say, that, unless there could be devised a law against paraphrase and plagiarism, copyright statutes were of very little practical importance, since a paraphrase of a work was fully as much entitled to copyright as the work itself. Is international legislation expedient to protect property so practically *publici juris*?

There is another phase of the question which I certainly do not care to press, but on which a consensus of opinion might be unfavorable to a statute of international copyright with England (though not, of course, with France, Germany, or other non-English speaking nations).

3. Is there any citizen of the United States, not at present a writer of poems, novels, or other literary matter, who would become one if there were an international copyright with England? Of course, if we can demonstrate that the divine call to write poems or novels is at present largely suppressed in our people by fears that they will be obliged to publish at their own expense, or that publishers will only pay them ten per cent; if it can be proved that this nation is suffering, and *in extremis*, for lack of

poems, romances, or general reading-matter, — it is the right and duty of congress, under the general urgency clauses of the constitution, to at once enact statutes for the public welfare and relief.

It has never been denied, I think, that, in times of great dearth or stress or suffering, extraordinary powers can be construed into that clause, for the general good of the whole people.

It seems to me, however, that there is no doubt possible but that congress would have power to simply amend its present copyright act by substituting the word 'person' for the words 'citizen of the United States,' which would at once give a perfect and absolute international copyright, and the best one possible; since any new and separate act would at once be brought before the courts for construction, whereas the word 'person' could hardly need judicial interpretation. This was the plan suggested by me in 1875, and I have seen no reason to depart from it since.

APPLETON MORGAN.

A recent ice-storm.

In answer to the question of Mr. W. M. Davis, printed on p. 190 of *Science* (vii. No. 160), I would suggest the following, deduced from observations of the effects of many similar storms, though the particular storm referred to, of Feb. 11–13, did not trouble the trees so much in this neighborhood as farther inland and farther north; for the temperature near Boston was not quite low enough to form much ice at that time.

Pine-trees make branches nearly at right angles with their trunks, and these branches become more and more pendant in their habit as they grow older. It follows, that, when an old tree is loaded down with ice, the branches can bend downward till they rest part of their weight on those below, and the lowest ones on the ground, without any abrupt bending at any one point. Moreover, pine wood, when alive, is quite tough, and will bear a good deal of distortion without fracture. The same reasons operate to protect our other coniferous trees of the spruce and fir tribes.

The white-oaks, although peculiar in retaining a good deal of their last year's foliage in winter, and carrying thereby a heavy load of ice on such occasions, have a prodigiously strong fibre, and, when alive, the branches possess great toughness. Any one who has tried to break a small limb from a living white-oak tree knows that it is nearly impossible. The white-oaks of Worcester county, Mass., are famed for the hardness and toughness of their wood, which is fully twice as strong to resist fracture while green as that of the white-oaks of the western states, though probably similar to the same kind of oaks growing near the same latitude, and as near the sea in other states.

On the other hand, the maples, elms, ashes, beeches, and many other deciduous trees which abound in the district referred to by Mr. Davis, make branches that pursue an upward direction, and continue to bifurcate, as they grow upward, at small angles both with one another and with the parent stem or trunk; while their fibre lacks toughness, i.e., is easily split in most cases. When these upright branches bend downward with the load of ice, the mechanical problem is quite different from that existing in the pines and spruces: for, as the branches of these evergreens become more and more pendant,

their centres of gravity, after getting below their point of origin, as they soon do, approach the trunk, and therefore exert less and less leverage the more they bend; while in the case of a beech, ash, maple, or elm tree, the centres of gravity of the upright branches depart from the vertical line of the trunk or point of bifurcation, and gain in leverage to effect fracture as they bend down, till they pass the horizontal; and then resistance to splitting is so feeble, that they often split at the fork before getting down as far as a horizontal position.

Among ornamental trees are some of peculiarly weak fibre which suffer extremely from ice-breakage. Such is the *Virgilia lutea*, of which I have some large specimens thus mutilated, though still very beautiful trees in June.

EDWD. S. PHILBRICK.

Brookline, Mass., March 1.

Habits of batrachians.

I have been unable to obtain information regarding the habits of the Amphiumidae of the United States, — *Cryptobranchus* or *Menopoma*, *Amphiuma*, *Necturus*, *Siren*, etc. (hellbenders, mudpuppies, etc.). Can any of the readers of *Science* tell where and when they are common, their larval habits, egg-laying habits and seasons, etc.?

GEORGE BAUR.

Yale coll. museum, New Haven, Conn.

A tornado brood in Hampshire county, Mass.

I find some additional notes, made at the time, from which it appears that the storm resulting in the destruction of Northampton bridge, June 14, 1877, exhibited at first a whirl in the shape of a huge umbrella hanging from the main cloud, the convexity upward: its destructive career may therefore be interpreted as a tornado. I find, also, notes of a tornado at Westfield, July 9 of the same year. This was reported as coming down the gorge of the Westfield River, and thus confirms my view of the origin of the tornadoes I described (*Science*, Feb. 5) as having their point of departure over the Mill River branch-valley.

H. W. P.

'Marvels of animal life.'

In a notice of 'Marvels of animal life,' in *Science* of Jan. 1, your reviewer says, "It will surprise some readers to see man and the *Pteranodon* represented on plate 31 as contemporaneous." The human figure was introduced in the cut merely to give young people some idea of the size of the animal, and was intended to have no other significance, the omission of this explanation in the text being an oversight.

C. F. HOLDER.

Pasadena, Cal., Feb. 17.

The competition of convict labor.

In reading Mr. Langerfeld's letter in *Science* of Feb. 19, one point occurs to me. He finds fault with my arithmetic. Now, I made it clear in one of the earlier articles that the competing power of convicts was in this country only about sixty per cent of what their numerical strength would seem to give them. In my letter printed in your issue of Feb. 12, all this was taken for granted, as I was unwilling to cumber your space with a repetition.

NICHOLAS MURRAY BUTLER.

New York, Feb. 25.